UNCLASSIFIED

U.S. Joint Forces Command

FORCEnet Engineering Conference

JBMC2 Joint Mission Thread Assessments

Ken Williams
USJFCOM JBMC2 Technical Director
(757) 836-9784
kenneth.williams@jfcom.mil

Purpose

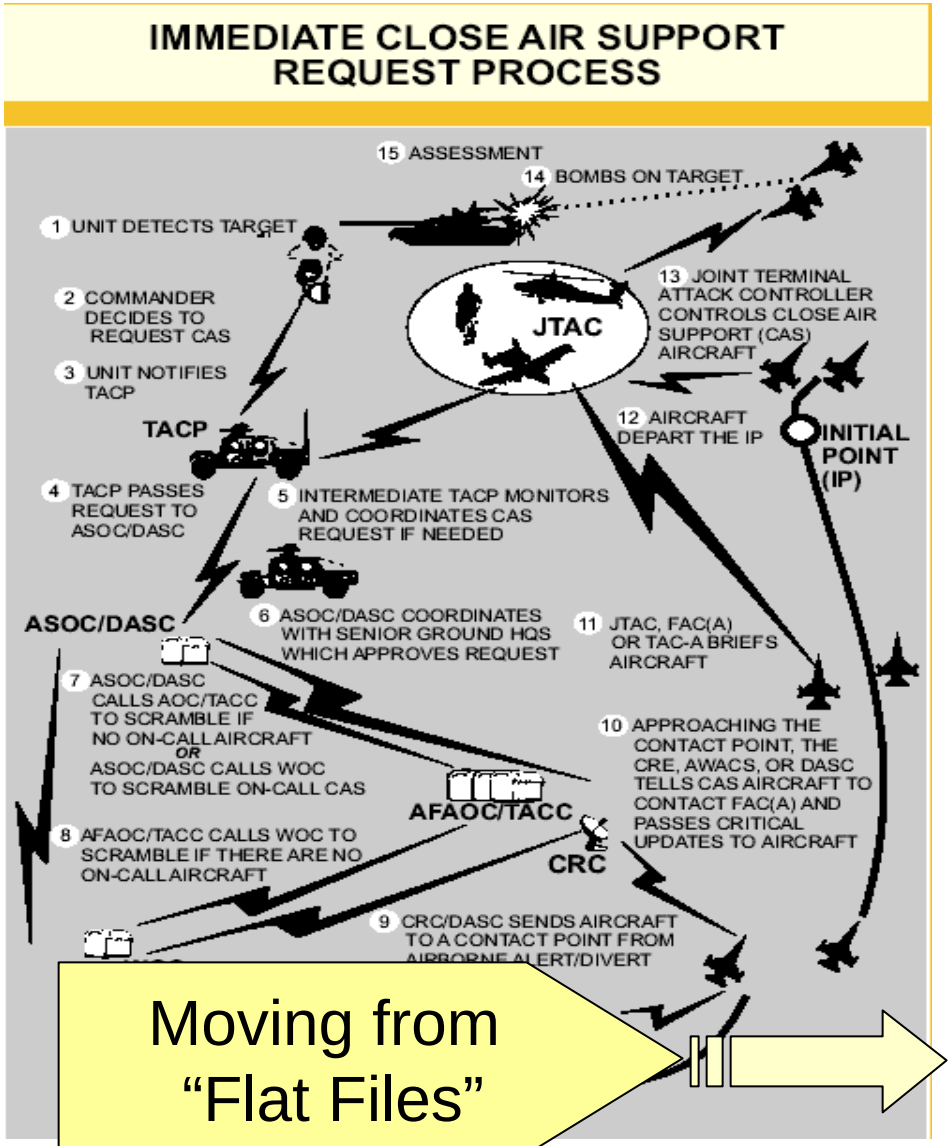
Brief overview of JFCOM's approach to assessment of Joint Mission Threads (JMT) considering Joint system and interface standards that support required capabilities, based on Service operational constructs.

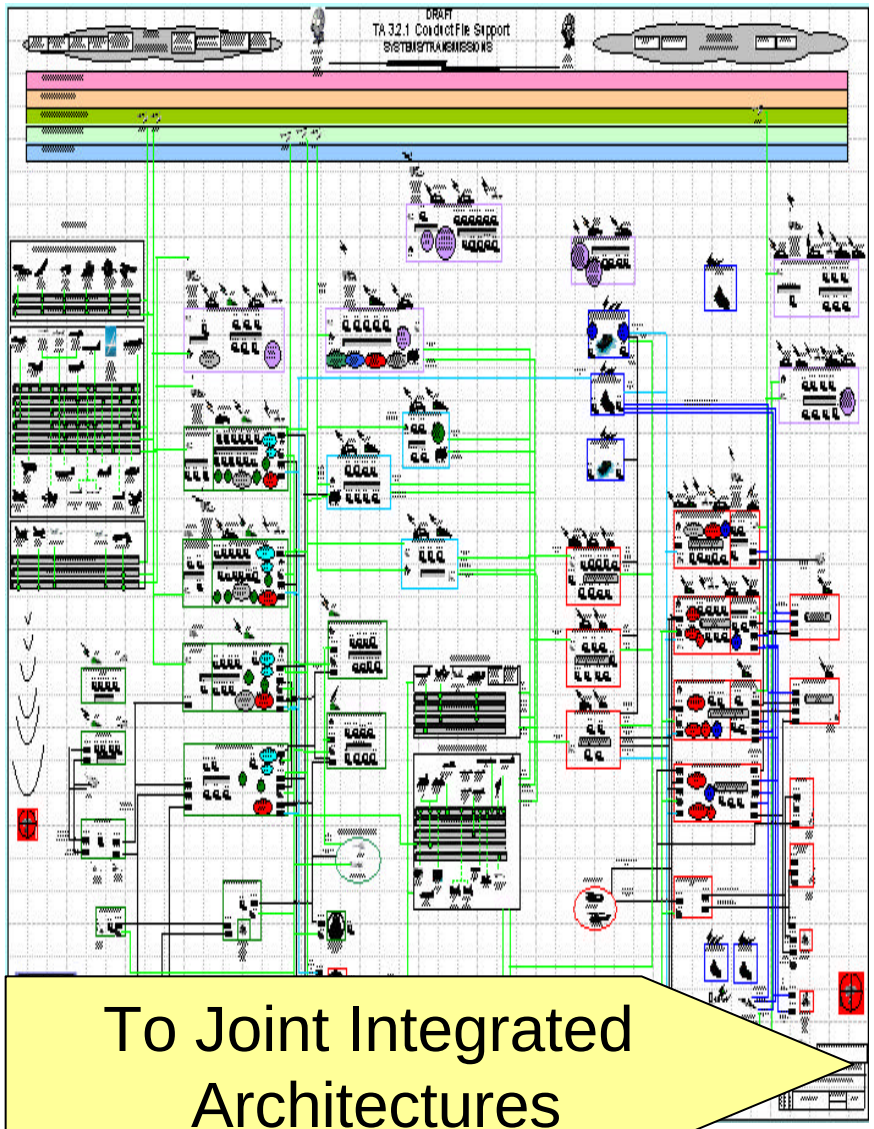
JBMC2 Roadmap Joint Mission Threads

Joint warfighting capabilities on a priority basis for critical mission areas:

- Joint Close Air Support
- Joint Task Force - Command and Control
- Integrated Air and Missile Defense
- Time Sensitive Target
- Joint Ground Maneuver
- Joint Integrated Fires
- Joint Focused Logistics

Scaleable for Joint Integrated Architecture Development





Moving from "Flat Files"

To Joint Integrated Architectures

JCAS JMT Assessment Overview

- JCAS Executive Steering Committee and JBMC2 Board of Directors use JBMC2 Roadmap to
  - Capture operational perspective
  - Validate Roadmap process for future JMTs
- Identify warfighter prioritized issues
- Identify test opportunities that leverage existing events and exercises
- Conduct distributed engineering interoperability assessments in a lab and live, virtual, constructive joint environment
- Submit DOTMLPF solution Change Recommendations (DCRs) for approval and implementation.
- Execute resources with Services/Agencies for planning and conduct of JCAS JMT Joint Test and Assessment

JCAS Initial Assessment Purposes

- **PURPOSE A:** Identify Joint interoperability gaps, overlaps, and shortfalls that result in deficiencies and to validate proposed DOTMLPF solutions to improve interoperability between the Joint Terminal Attack Controller (JTAC) equipment suites and Joint Close Air Support (JCAS) platforms to **digitally** execute steps *10 through 15* of the Immediate CAS Process (Reference: Joint Publication 3-09.3[Joint Tactics, Techniques, and procedures for Close Air Support (CAS)]).

- **PURPOSE B.** Provide recommendations to the Joint Effects Targeting System (JETS) Tiger Team regarding the validation of the capabilities required for a common target location, designation and handoff system**.**

- **PURPOSE C.** Demonstrate a proof-of-concept of the JBMC2 JCIP JT&A process to JFCOM J89 to determine applicability to other JBMC2 JMTs and Net Centric migration.

All assessment efforts are dependant on available funding

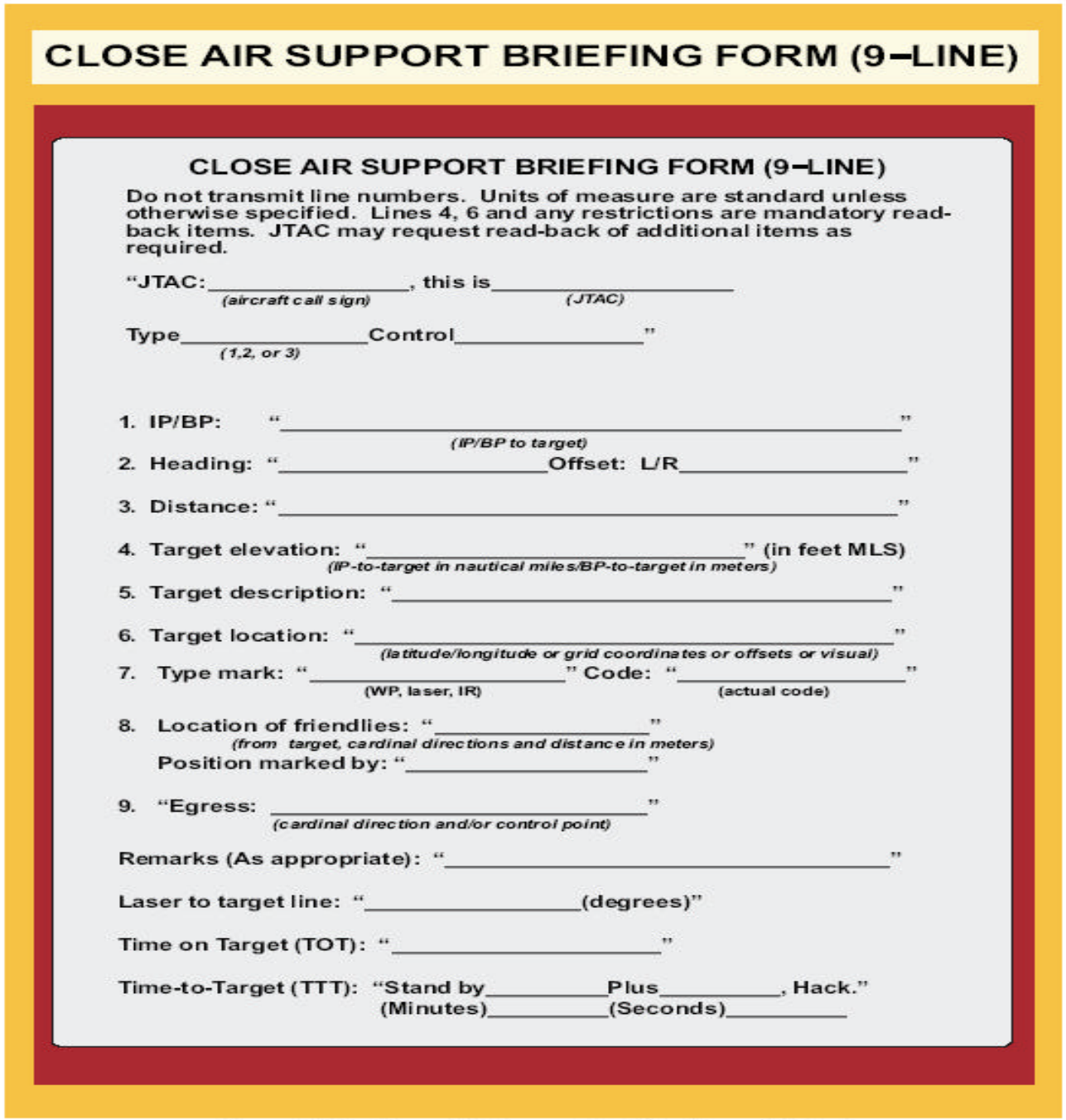


Figure V-11. Close Air Support Briefing Form (9-Line)

JCAS JMT OPERATIONAL ISSUE

- **ENSURE INTEROPERABILITY BETWEEN:**
  - TACP/JTAC equipment and all JCAS service fire support/airspace management agencies, C2/ISR platforms and CAS aircraft with respect to – Voice, Data, Graphics, and Imagery.
- **PROPOSED JCAS Events:**
  - **Focus of first JCAS Event in FY 2006**: Improving the efficiency and timeliness in the joint warfighter's "ability to conduct immediate CAS digitally between Joint Terminal Attack Controllers (JTAC) and Close Air Support (CAS) Platforms."
  - **Focus of second JCAS Event in FY 2007:** Theater Air Ground System (TAGS): focus on improving the timeliness, correctness, and other attributes of data-link interoperability in TAGS.
  - **Focus of third JCAS Event in Mid FY 2007):** End-to-End JCAS Review (JTAC to TAGS to CAS Platforms)

What is being Assessed?

- Systems performance:
  - ✓within Issue Area defined by assessment purpose,
  - ✓within Joint Resolution Area(s) defined by SoS Desktop Analysis,

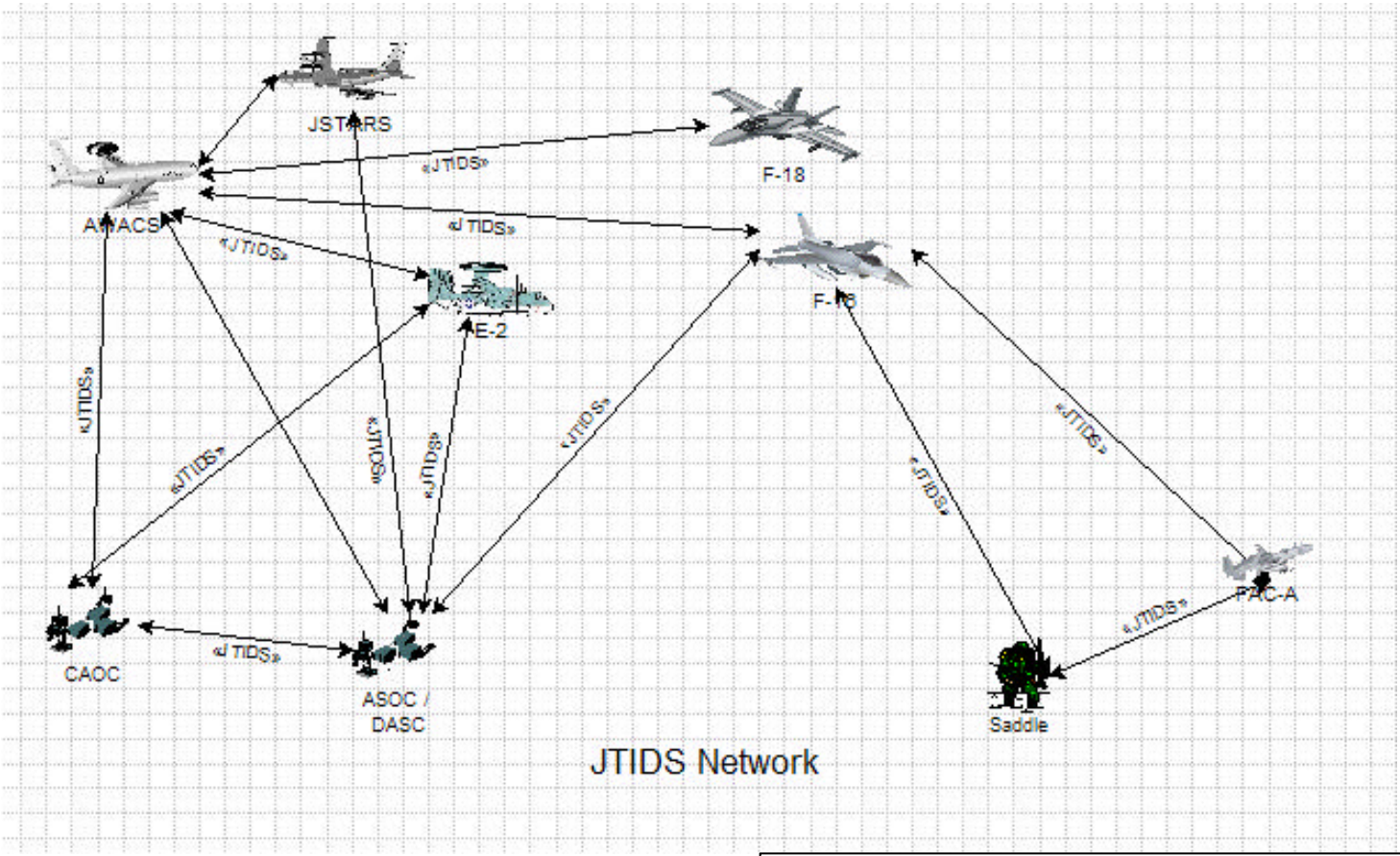
- LVC event will demonstrate functionality within Issue Area:
  - ✓ configurations which provide the most warfighter benefit/use
  - ✓ configurations which are foreseen to have greatest risk of mission failure
  - ✓ confidence/demonstration testing,
  - ✓ discovery/identify deficiencies

- Limited test & assessment of solution functionality within Joint Resolution Areas to support various JBMC2 mission needs
  - ✓ unresolved performance supporting candidate Joint solution
  - ✓ unresolved performance pertaining to configurations of System of System providing/incorporating Joint solution.

Potential Live Venues

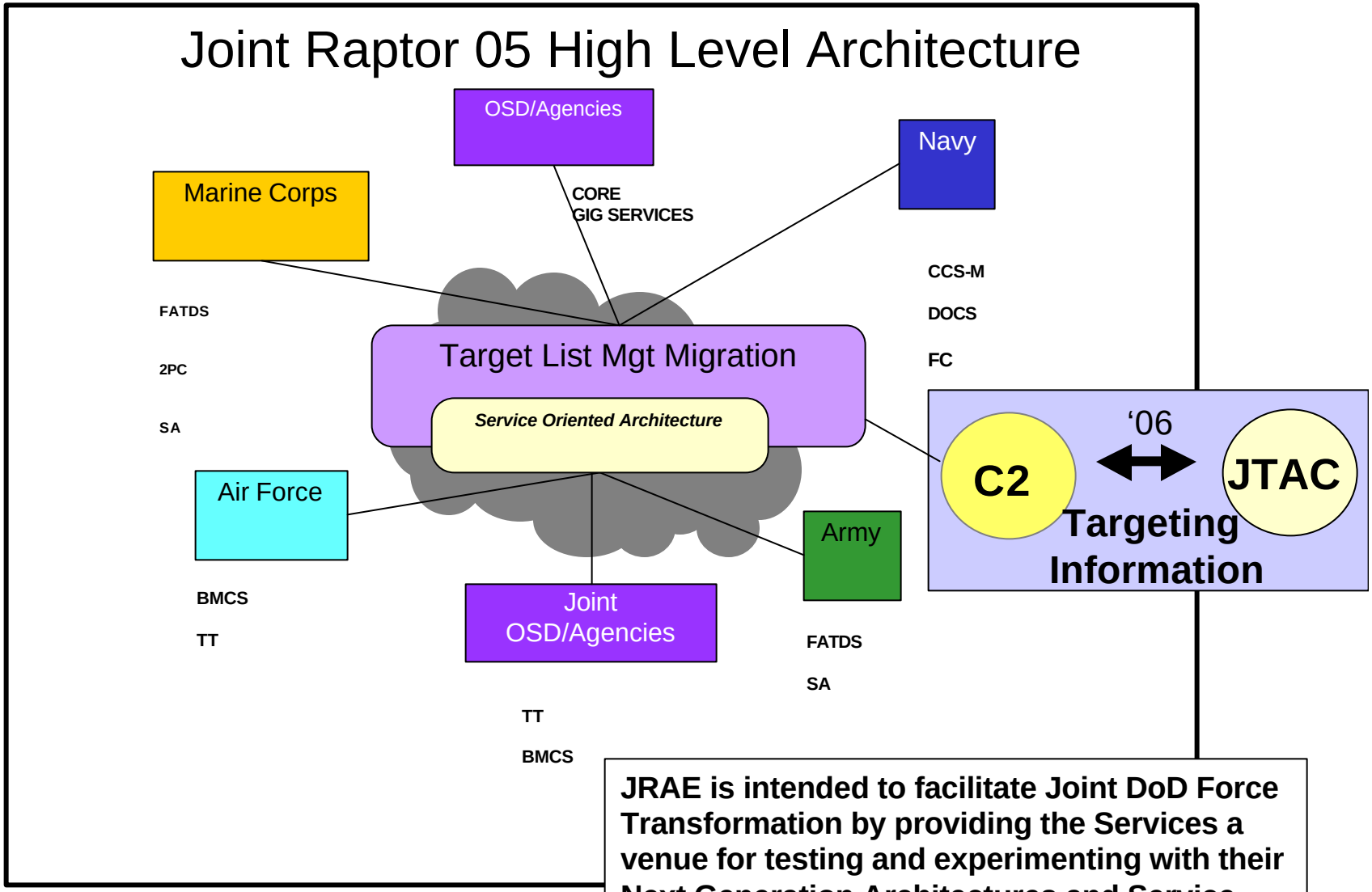
- WTI Course, Yuma AZ
- NAWC-WD China Lake, CA
- NSAWC Fallon, NV
- Multi-Service Distributed Event
- Joint Rapid Architecture Experiment
- Air Warrior, Barksdale AFB, LA & Nellis AFB, NV

Multi-Distributed Service Event for JCAS



Army lead, at White Sands,
23 Aug – 2 Sept 2005
JCAS focus, distributed testing

Joint Rapid Architecture Experiment ('05)



JRAE is intended to facilitate Joint DoD Force Transformation by providing the Services a venue for testing and experimenting with their Next Generation Architectures and Service Roadmaps.

JCAS Equipment/Platform Event 1 Results

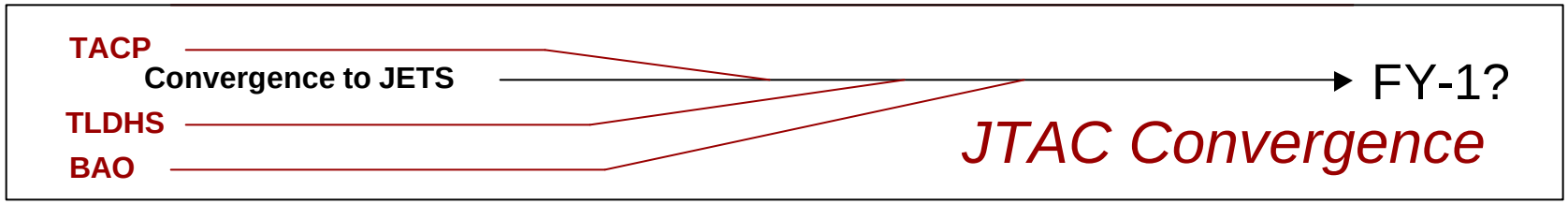
- Validate what information we need to send digitally
  - CAS mission brief
  - CAS aircraft Sensor Point of Interest (SPI)
  - Streaming video/Graphics
  - Blue Force Tracking (BFT)
- Identify Digital interoperability Gaps
  - Various legacy waveforms in use
  - Not one piece of equipment can communicate digitally to all JCAS platforms
  - DOD Standard (MIL-STD 6016C)
- Identify potential Near and Far term solutions

JETS Analysis of Materiel Approaches

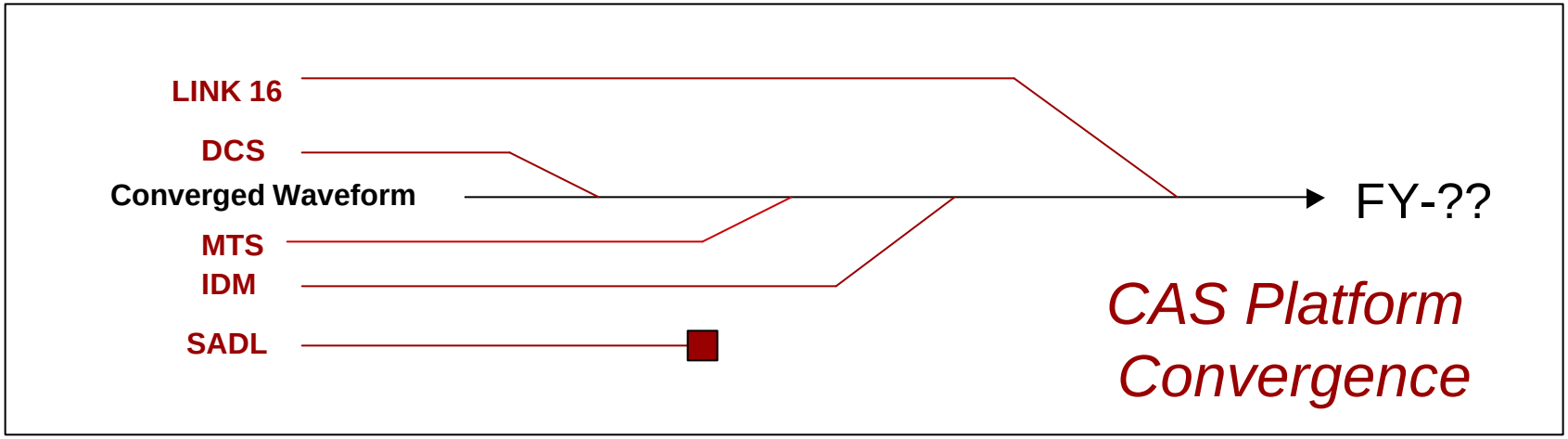
The JETS ICD considered three alternatives based on potential to meet the desired capabilities outlined in the FNA, technical maturity and risk, affordability and any second or third order DOTMLPF implications.

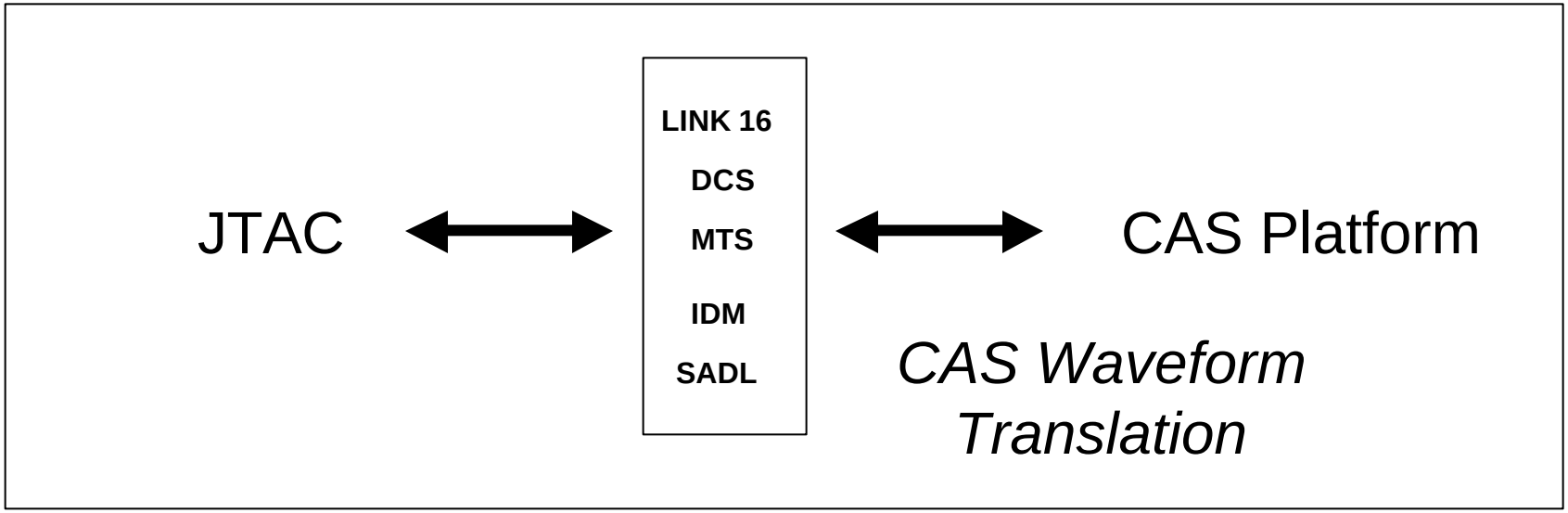
IMA 1: Continue independent service research, development and procurement and develop common interfaces to improve joint interoperability.
IMA 2: Select and modify one of the existing service programs as the joint solution.
IMA 3: Develop a new materiel solution by leveraging existing service efforts.

The preferred materiel approach to close the capability gaps described in the FNA is a new system that leverages existing service technologies and current developmental activates to meet the joint force dismounted requirement.



Waveform Convergence or Translation?





Joint Capability for the Warfighter

Improved Data Modem
(IDM – Block 40)

Link 16

Digital Comm System
(DCS – F/A-18)

B-52 IDM Notebook
(Demonstration)

Situation Awareness Data Link
(SADL – Block 30)

Marine Tactical System
(MTS – AV-8B)

Sensor Video
(UAVs & Targeting Pods)

C2 Nodes
ASOC / DASC/ AOC / JSOTF

JTAC/TACP

Army/USMC C2 Systems
(FBCB2 / C2PC / AFATDS)

QUESTIONS